Gefen

# 4x4 Component Audio Matrix

## USER MANUAL




www.gefen.com

**Technical Support**:

| | |
|---|---|
| Telephone | (818) 772-9100 |
| | (800) 545-6900 |
| Fax | (818) 772-9120 |

**Technical Support Hours:**
8:00 AM to 5:00 PM Monday through Friday.

**Write To:**

Gefen Inc.
C/O Customer Service
20600 Nordhoff St.
Chatsworth, CA 91311

www.gefen.com
support@gefen.com

**Notice**

Gefen Inc. reserves the right to make changes in the hardware, packaging and any accompanying documentation without prior written notice.

**The 4x4 Component Audio Matrix** is a trademark of Gefen Inc.

# TABLE OF CONTENTS

## INTRODUCTION

Thank you for purchasing the 4x4 Component Audio Matrix.

The 4x4 Component Audio Matrix switches four component video with analog audio sources to any four component with analog audio displays.

The 4x4 Component Audio Matrix switcher has four component video with analog audio inputs and four component with analog audio outputs. There are 4 component video ( 3 RCA) with analog audio ( 2 RCA) inputs and 4 component ( 3 RCA) with analog audio ( 2 RCA) outputs.

Note: The switching is done by using either the RMT-16-IR remote control or through the RS232 port. The 4x4 Component Audio Matrix is rack mountable.

## OPERATION NOTES

**READ THESE NOTES BEFORE INSTALLING OR OPERATING THE 4X4 COMPONENT AUDIO MATRIX**

- The 4x4 Component Audio Matrix is housed in a metal box for better RF shielding.
- The 4x4 Component Audio Matrix works with all component displays

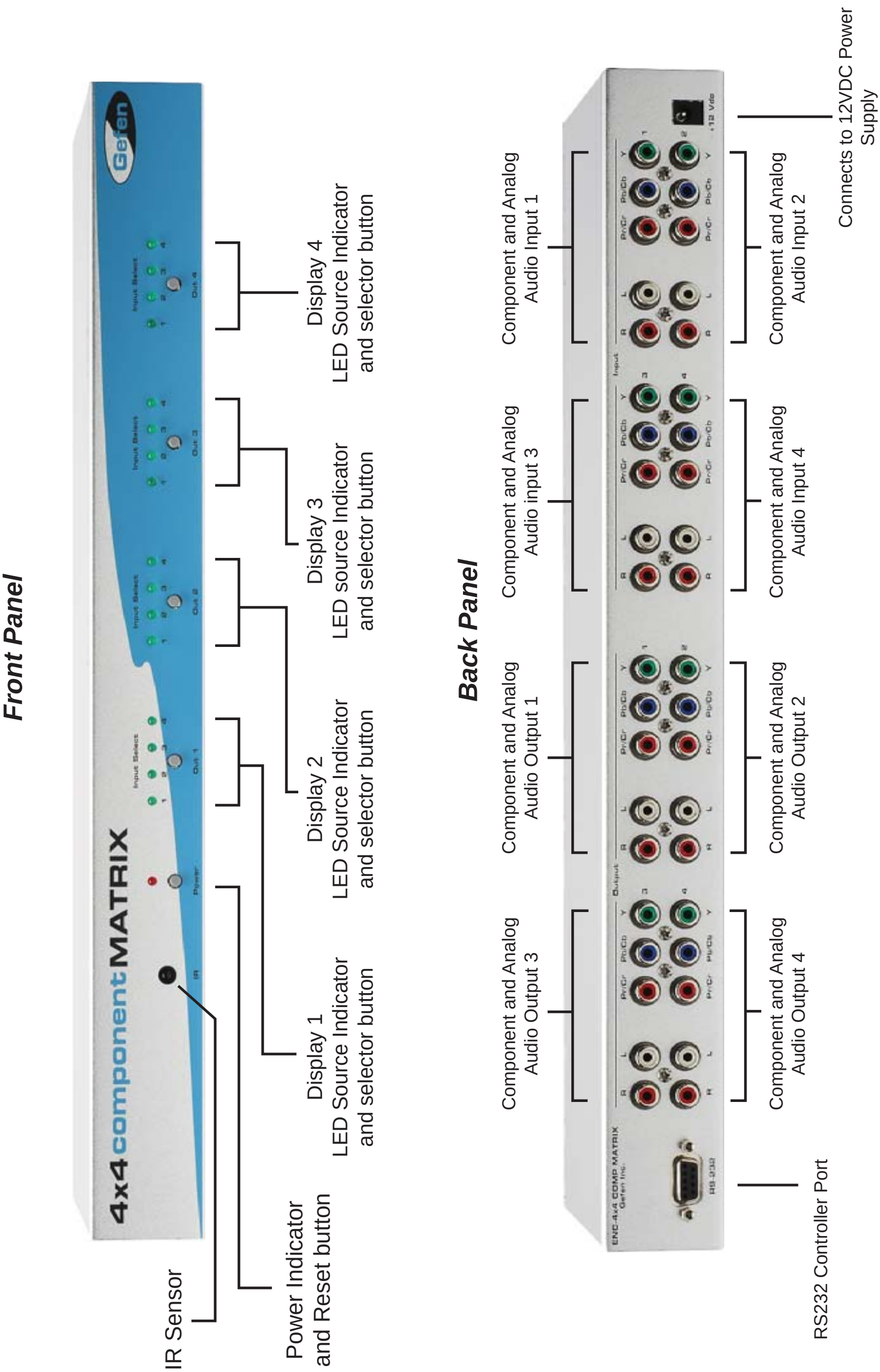
## Features

- Allows any component display to view any source at any time
- Allows any source to be displayed on multiple displays at the same time
- Maintains highest video resolution up to 1080p
- Each display's inputs can be switched with the IR remote control, front panel push buttons, or through RS232

## Includes:

(1) 4x4 Component Audio Matrix
(4) 5 RCA Cables (M-M)
(1) 12VDC 5A Power Supply
(1) User Manual
(1) RMT-16IR Remote Control
(1) Rack Ears




Front Panel
4x4 component MATRIX
Gefen
IR Sensor
Power Indicator and Reset button
Display 1 LED Source Indicator and selector button
Display 2 LED Source Indicator and selector button
Display 3 LED source Indicator and selector button
Display 4 LED Source Indicator and selector button
Back Panel
Component and Analog Audio Output 3
Component and Analog Audio Output 1
Component and Analog Audio input 3
Component and Analog Audio Input 1
Component and Analog Audio Output 4
Component and Analog Audio Output 2
Component and Analog Audio Input 4
Component and Analog Audio Input 2
RS232 Controller Port
Connects to 12VDC Power Supply

1 Connect all the sources to the component and analog audio inputs on the 4x4 Component Audio Matrix using the supplied cables.

2 Connect the component with audio displays to the outputs on the 4x4 Component Audio Matrix.

3 Connect the 12VDC power supply to the 4x4 Component Audio Matrix

4 Use the push buttons for each display on the front of the unit to select the source for that display.

5 Controlling the 4x4 Component Audio Matrix using the RMT16-IR:

| Pressing Buttons... | Switches... |
|---|---|
| 1-4 | Display 1 to view Source 1, 2, 3, or 4 |
| 5-8 | Display 2 to view Source 1, 2, 3, or 4 |
| 9-12 | Display 3 to view Source 1, 2, 3, or 4 |
| 13-16 | Display 4 to view Source 1, 2, 3, or 4 |

1. Remove battery cover from the back of the RMT16-IR remote.

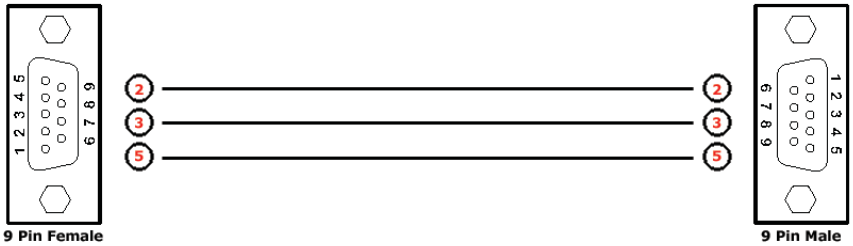
2. Verify that dip switches 1 & 2 are in the down (OFF) position.

3. Insert the battery, hold the battery so that you can see the positive side facing up. The side that is not marked must be facing down.

4. Test the RMT16-IR remote by pressing ONLY one button at a time. The indicator light on the remote will flash once each time you press a button. WARNING: Do not press multiple buttons simultaneously and do NOT press buttons rapidly. These actions will cause the remote to reset and steps 1-4 will have to be repeated.

Note: The RMT16-IR ships with two batteries. One battery is required for operation, the second battery is complimentary.






**Binary Table**

| ASCII | Corresponding RMT16-IR Button | Binary | ASCII | Corresponding RMT16-IR Button | Binary |
|---|---|---|---|---|---|
| 1 | 1 | 0011 0001 | 9 | 9 | 0011 1001 |
| 2 | 2 | 0011 0010 | a | 10 | 0110 0001 |
| 3 | 3 | 0011 0011 | b | 11 | 0110 0010 |
| 4 | 4 | 0011 0100 | c | 12 | 0110 0011 |
| 5 | 5 | 0011 0101 | d | 13 | 0110 0100 |
| 6 | 6 | 0011 0110 | e | 14 | 0110 0101 |
| 7 | 7 | 0011 0111 | f | 15 | 0110 0110 |
| 8 | 8 | 0011 1000 | g | 16 | 0110 0111 |

**RS232 Settings**

Bits per second ........................................................................................ 19200

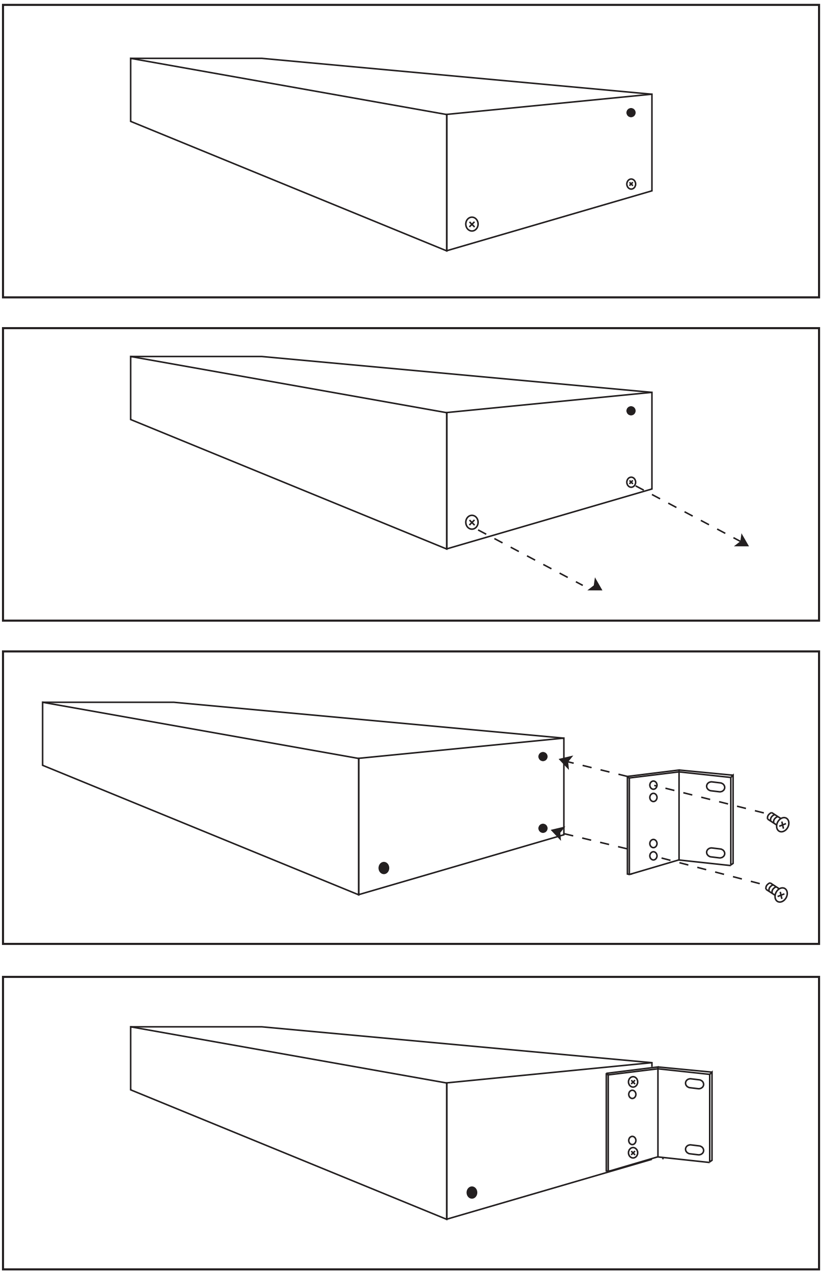
Data bits ......................................................................................................... 8

Parity ....................................................................................................... None

Stop bits .........................................................................................................1

Flow Control ........................................................................................... None

# 4X4 COMPONENT AUDIO MATRIX RACK MOUNT DIAGRAM



## SPECIFICATIONS

Input ............................................. YPbPr x 4 or RGsB x 4 (or RGBHV) 1 Vp-p@ 75 ohm

Output ............................................................ YPbPr x 4, or RGsB (or RGBHV) x 4

Analog audio input/output ............................................. Audio 2 Vrms max 47k ohm

Bandwidth ......................................................................................... 480MHz (-3dB)

Video Range ........................................................................................... 1080p

Differential gain ........................................................................................ 0.05%

Differential phase .......................................................................... 0.05 degree

Power Supply ......................................................................... 12V DC 5 Amp

Dimensions ................................................................ 17.25” W x 1.75” H x 4.95” D

Shipping Weight ......................................................................................... 10 lbs.

***DDC***

Short form for Display Data Channel. It is a VESA standard for communication between a monitor and a video adapter. Using DDC, a monitor can inform the video card about its properties, such as maximum resolution and color depth. The video card can then use this information to ensure that the user is presented with valid options for configuring the display.

***DDWG***

Digital Display Working Group DDWG are the creators of the DVI specification.

***DVI***

Digital Visual Interface. Connection standard developed by Intel for connecting computers to digital monitors such as flat panels and DLP projectors. A consumer electronics version, not necessarily compatible with the PC version, is used as a connection standard for HDTV tuners and displays. Transmits an uncompressed digital signal to the display. The latter version uses HDCP copy protection to prevent unauthorized copying.

***HDCP***

High-Bandwidth Digital Content Protection. Created by Intel, HDCP is used with HDTV signals over DVI and HDMI connections and on D-Theater D-VHS recordings to prevent unauthorized duplication of copy written material.

***HDMI***

The High-Definition Multi-media Interface (HDMI) is an industry-supported, uncompressed, all-digital audio/video interface. HDMI provides an interface between any compatible digital audio/video source, such as a set-top box, DVD player, and A/V receiver and a compatible digital audio and/or video monitor, such as a digital television (DTV).

***HDTV***

High-Definition Television. The high-resolution subset of our DTV system. The ATSC defines HDTV as a 16:9 image with twice the horizontal and vertical resolution of our existing system, accompanied by 5.1 channels of Dolby Digital audio. The CEA defines HDTV as an image with 720 progressive or 1080 interlaced active (top to bottom) scan lines. 1280:720p and 1920:1080i are typically accepted as high-definition scan rates.

***RS-232***

Recommended Standard 232. This is the de facto standard for communication through PC serial ports. It can refer to cables and ports that support the RS232 standard.

***VESA***

Video Electronic Standards Association, a consortium of manufacturers formed to establish and maintain industry wide standards for video cards and monitors. VESA was instrumental in the introduction of the Super VGA and Extended VGA video graphics standards with a refresh rate of 70 Hz, minimizing flicker and helping to reduce user eyestrain and fatigue.